



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/716,149	11/17/2003	Chris Kiyoshi Togami	15436.249.42.1	5300
22913	7590	10/04/2005	EXAMINER	
WORKMAN NYDEGGER (F/K/A WORKMAN NYDEGGER & SEELEY) 60 EAST SOUTH TEMPLE 1000 EAGLE GATE TOWER SALT LAKE CITY, UT 84111			STEIN, JAMES D	
			ART UNIT	PAPER NUMBER
			2874	

DATE MAILED: 10/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/716,149	TOGAMI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	James D. Stein	2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 July 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-15 and 20-27 is/are allowed.
- 6) ☒ Claim(s) 1-7, 9, 10, 12 and 16-19 is/are rejected.
- 7) ☒ Claim(s) 8 and 11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

This Office Action is responsive to the amendment filed on 7/20/05, which has been fully considered and entered into the prosecution record. Claims 1, 3, 5, 10, 13 and 20 are amended. Claims 1-27 are pending in the application.

#### ***Response to Arguments***

Applicant's arguments with respect to claims 1-5, 9-10, 12 and 16-17 have been considered but are moot in view of the new ground(s) of rejection. Essentially, applicant has argued that the Gregory reference cited in the previous Office Action is not applicable because it does not teach the optoelectronic modules to be selectively removable from the daughter card. New grounds of rejection follow.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4, 5, 7, 10, 12, and 16 are rejected under 35 U.S.C. 103(a) as being obvious over [USPAT 6,305,848] to Gregory, and further in view of [USPUB 20030012485] to Neeley et al. ("Neeley")

With regard to claims 1, 2, and 10, Fig. 2 of Gregory shows a host board 14, a plurality of daughter cards 20 parallel to each other and operably connected perpendicularly to the host board 14. Furthermore, a plurality of optoelectronic modules 28 are connected to a respective one of

the daughter cards 20: "The daughter card 20 contains circuitry and components for driving the optical transmitters and for processing signals received by the optical receivers housed within the connectorized optical sub-assembly 28 (col. 6 line 104)." This teaching clearly describes an optoelectronic module. Furthermore, the width of a surface (top surface) of sub-assembly 28 (optoelectronic module) defines a width of each of the plurality of optoelectronic modules and also is parallel to a surface of the host board 14, as is shown by Figs. 2,5, and 6. The optoelectronic module 28 is taught to comprise optical transmitters 60 and 62 and optical receivers 64 and 66, thus comprising a transceiver module; and is shown in an edge-on orientation with respect to the host board 14. As is shown by the figures, the daughter card surface is perpendicular with respect to the host board 14.

Therefore, Gregory discloses the claimed invention except for said optoelectronic modules 28 that are each selectively and removably connected to the respective one of the daughter cards 20. Neeley discloses a related optoelectronic module array system wherein the the optoelectronic modules are selectively removable so as to facilitate the replacement of a module without the need for disconnecting or down-powering the entire module array system [0022]. Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art to modify the device disclosed by Gregory such that the optoelectronic modules are selectively removable in order to allow faulty optoelectronic modules 28 to be replaced without the need for disconnecting or down-powering the entire module array system.

With regard to claim 4, 12, and 16, in addition to the rejections of claims 1 and 10 previously discussed above, Figs. 4 and 5 show the plurality of optoelectronic modules 28 each comprise transmitters (60 and 62) and receivers (64, 66) enclosed in a housing cavity 67, or

“cage” as claimed by applicant. Also, each “cage” is connected to the daughter card surface of a respective one of the plurality of daughter cards (Fig. 5). All of the other limitations of claim 16 have been previously discussed above.

With regard to claim 5, in addition to the rejection of claim 4 previously discussed above, each optoelectronic device 28 is shown to connect via said “cage,” or housing, to the respective daughter card 20 through electrical leads 84 and solder pads 72 (Figs. 4 and 5 and col. 6, lines 7-10).

With regard to claim 7, in addition to the rejection of claim 5 previously discussed above, latching devices are inherently required to selectively and removably attach the optoelectronic modules of Neeley. The optoelectronic modules are shown by Gregory to be in a fixed position with respect to the host board 14.

Claims 3, 9, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gregory-Neeley as applied to claims 1 and 16 above.

With regard to claims 3 and 17, Fig. 5 shows solder connections 72 on the surface of each daughter card 20 for receiving/connecting the leads 83 (Fig. 4) of a respective one of the optoelectronic modules 28. Although Gregory does not disclose a “connector receptacle,” as claimed by applicant, direct solder connections are interchangeable with, and commonly replaced by connector/receptacle arrangements. See, for example, the connector 22 and receptacle 24 between the daughter card 20 and host board 14, respectively (Fig. 2). Such a connection between the module 28 and daughter card 20 would provide for the replacement of a faulty or antiquated optoelectronic module 28. Therefore, it would have been obvious at the time of the invention to modify the device as taught by Gregory to include a connector receptacle in

place of a solder connection for receiving a respective one of the optoelectronic modules 28 on each daughter card 20, in order to provide for replacement of a faulty or antiquated optoelectronic module 28.

With regard to claim 9, Gregory-Neeley disclose the claimed invention except for two optoelectronic devices connected to each daughter card. Gregory discloses only one optoelectronic device connected to each daughter card. However, the single module 28 includes both the TOSA devices (60, 62 and 64) and the ROSA device 66. Since the function of the device would remain the same, it would have been obvious to one of ordinary skill in the art at the time of the invention to separate the TOSA and ROSA devices into two separate transmitting and receiving modules, respectively, both connected to a respective daughter card 20, in order to facilitate visual distinction between the transmitting and receiving portions of the device.

Claims 6, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gregory-Neeley as applied above, and further in view of [USPAT 6,358,066] to Gilliland et al, which discloses a surface mountable transceiver.

With regard to claims 6 and 18, Gregory-Neeley disclose the claimed invention as discussed in the rejections of claims 5 and 17 above, except for a three-sided cage that provides electromagnetic shielding for the respective optoelectronic module. Fig. 2 of Gilliland et al shows an optical transceiver housing with a three-sided cage 50 that provides electromagnetic shielding (col. 5 lines 12-15) and electrical grounding (col. 4 line 26) to the components of the device. Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art to modify the device to include an electromagnetically shielded and electrically

Art Unit: 2874

grounded housing in order to protect the device from electromagnetic interference from external sources and ground the electrical components within the housing.

With regard to claim 19, figs. 4-6 of Gregory show that a *vertical*, imaginary line that passes through a central portion of both optical ports of module 28 will intersect the host board 14 at a right angle.

***Allowable Subject Matter***

Claims 13-15 and 20-27 are allowed. As was discussed in the previous Office Action, none of the cited prior art discloses or suggests the optical transceiver module array system discussed above, further comprising a rotatable bail, a pivot block having a lock pin, the pivot block being pivotally attached to the rotatable bail, wherein the lock pin engages a portion of the optical transceiver module array system when the bail and the pivot block are positioned in a specified configuration to selectively secure the transceiver module; a plurality of optical fiber connectors that are each connected to the optical ports of respective transceiver modules, wherein each optical fiber connector includes a release sleeve that is slideably engaged with the optical fiber connector. This specific configuration allows applicant to very easily and selectively remove the optoelectronic module of the present invention.

Claims 8 and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the cited prior art discloses or suggests the transceiver module array system, further comprising a latching mechanism that includes a lock pin that engages a hole defined in the respective cage to secure the optoelectronic module.

*Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James D. Stein whose telephone number is (571) 272-2132. The examiner can normally be reached on M-F (8:00am-4:30pm).

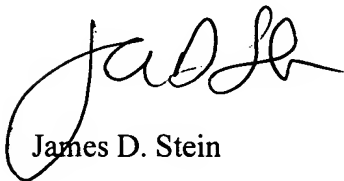
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished



Art Unit: 2874

applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'J.D. Stein', with a large, stylized initial 'J'.

James D. Stein

A handwritten signature in black ink, appearing to read 'Sung Park', with a large, stylized initial 'S'.

Sung Park

Primary Patent Examiner

AU 2874